From glowbugs@theporch.com Fri Nov 15 15:47:35 1996
Return-Path: <glowbugs@theporch.com>
Received: from uro (localhost.theporch.com [127.0.0.1]) by uro.theporch.com
(8.8.2/AUX-3.1.1) with SMTP id PAA19609; Fri, 15 Nov 1996 15:36:12 -0600 (CST)
Date: Fri, 15 Nov 1996 15:36:12 -0600 (CST)
Message-Id: <199611152136.PAA19609@uro.theporch.com>
Errors-To: conard@tntech.campus.mci.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 353
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
Status: O

GLOWBUGS Digest 353

Topics covered in this issue include:

Date: Thu, 14 Nov 1996 20:25:27 -0500 (EST)
From: "Barry L. Ornitz" <u856010@eastman.com>
To: glowbugs@theporch.com
Subject: Chemical Rectifiers (was 120 battery)
Message-ID: <Pine.ULT.3.91.961114201131.2514B-100000@dua150.kpt.emn.com>

Dirk, PA3GNR, brought up the subject of chemical rectifiers. Several folks, especially Bob, NA4G, and Ralph, W5JGV, gave some more details. I would just like to add that you should play it safe when experimenting with these. NEVER power them straight off the power line. If you absolutely need the voltage, use an isolation transformer.

In fact, chemical rectifiers are messy. Improperly used they can create explosive gases. Even in the best of situations, they commonly overheated and "boiled over". High voltage creates problems with leakage currents, insulation, and the possibility of exposed contacts with lots of cells in series.

I would suggest that while certainly a part of radio's past, it is one we should avoid today. On the other hand, you can learn quite a bit about them (and on a related technology - electrolytic capacitors) by limiting your experiments to low voltage. A twelve or twenty-four volt filament transformer will provide adequate power line isolation and small pilot lamps make excellent loads to safely experiment with.

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

Date: Thu, 14 Nov 1996 20:40:50 -0500 (EST)
From: "Barry L. Ornitz" <u856010@eastman.com>
To: Glowbugs Mailing List <glowbugs@theporch.com>,
Cc: Jeff Duntemann <jeffd@coriolis.com>
Subject: Crystal Etching and Ammonium Bifluoride
Message-ID: <Pine.ULT.3.91.961114202727.2514C-100000@dua150.kpt.emn.com>

In the following message, I have corrected all the misspelled versions of words relating to the compound _fluorine_. Note that this is NOT "flour-ine". Since some of the good folks on Boatanchors are into crystals too (especially Roberta who showed off some prize crystal specimens at Dayton), I thought the safety warning might be appreciated.

Jeff Duntemann wrote:

> Most intriguing is his description of crystal etching using
> ammonium bifluoride, which he describes as harmless, though
> anything with fluorine in it inspires caution in this particular
> individual.

Bob Keys replied:

> Yeah, me too.....

> This is the best way to etch xtals, but also the most dangerous.

> Ammonium bifluoride (also HF acid or HydroFluoric acid) eats human
> flesh quite well, so it needs to be handled in a fume hood, and
> with appropriate safety precautions and personal protective
> equipment. In very dilute solutions, it is not so bad, but in
> denser solutions or in the straight acid form, it can be downright
> mean stuff. I am sure Barry Ornitz can fill us in on the
> particular details here, if he has some time.

Thanks for the confidence, Bob. Let me add a little more background and
then Iíll try to explain things.

Roy Morgan then asked:

> I've got a small quantity of Ammonium Bifluoride from the estate
> of an SK. It is in the form of clear crystals, a bit like rock
> salt or kosher salt. It is contained in what appears to be
> polyethylene bag in a small cardboard box. It appears to not have
> changed its appearance for 30 years, and the container appears to
> not have suffered at all.

> My memory of Hydrofluoric Acid from high school is that it is a
> liquid which fumes a bit when exposed to air, and which must be
> stored in a wax-lined bottle.

> Are we talking about the same thing here!

Bob Keys replied:

> The ammonium bifluoride, dissolved into solution makes for a weak
> HF acid {chemical abbreviation for hydrofluoric acid from the
> elements Hydrogen, H, and Fluorine, F} as opposed to the 40-60% HF
> aqueous acid in the classic HF wax lined acid bottle. It is still
> the same stuff.

Ammonium bifluoride, or more properly ammonium hydrogen fluoride, is a

double salt of hydrofluoric acid. Its chemical formula is NH5F2 (or for better understanding NH4F-HF or NH4HF2). It differs slightly from ammonium fluoride (NH4F). [Similarly sodium carbonate (washing soda) differs somewhat from sodium bicarbonate (baking soda).]

When dissolved in water, ammonium bifluoride produces a weak solution of hydrofluoric acid and ammonium fluoride. Royís memory is correct about strong solutions of hydrofluoric acid in water - although polyolefins have been the preferred container materials for years.

>From a safety standpoint, consider hydrofluoric acid, ammonium fluoride, and ammonium bifluoride to _all_ be dangerous and highly corrosive.

Bob continued:

> It is classed as a skin irritant, and requires 15 minutes flushing
> the skin after exposure in running water. That is not as bad as
> the concentrated HF, which is highly corrosive. HF, regardless of
> its source can "cause deep, slowly healing burns to the skin which
> may not be immediately painful." Also, "contact with the eyes may
> cause permanent blindness."

> Store in a dry, well-ventilated area. Protect containers from
> physical damage. Avoid inhalation of dust or fume. Follow good
> hygienic practice to avoid inhalation or ingestion. CONTAINERS
> SHOULD BE PLASTIC, RUBBER, WOOD, OR PARAFFIN COATED.

> Although the HF is the worst stuff, the ammonium bifluoride is the
> same stuff, in a lesser format. Use care and appropriate
> cautions, etc.

I would like to add only some minor comments here. In the presence of moisture, the salts can do as much damage as straight hydrofluoric acid. When Bob says to wash for 15 minutes - he means it! Wash under continuously running water for at least this long - and start this immediately; do not wait for help.

The list of problems that can be caused by ingestion or absorption of fluoride salts is about a page long in small type! I wonít bother to list them here. One insidious problem with hydrofluoric acid and its cousins is that it immediately deadens nerve endings, so you do not feel immediate pain. Hydrofluoric acid burns are extremely slow healing because they are generally so deep. The healing process is supposed to be one of the most painful things a person can endure.

On containers, I mentioned polyolefins (polyethylene, polypropylene) as being quite resistant to attack. Most other plastics resist hydrofluoric attack too except possibly nylon. I would stay clear of

wood, not because it is not resistant, but because it is porous and can absorb the acid [you do not want to handle the wood afterward].

As for using ammonium bifluoride solutions to etch crystals, Bob Keys noted:

> I tried it one time, and it works quite nicely, but takes forever,
> using ammonium bifluoride, or at least it did for me, with fairly
> dilute solution. It is a good way to reactivate xtals that are a
> bit sluggish and just need some cleanup.

I concur with Bob here. Grinding is faster, but etching is useful for "fine tuning" a crystal. When silica (SiO_2, quartz) is placed in hydrofluoric acid, silicon tetrafluoride gas is released. This is extremely toxic too so work outdoors, or under a laboratory hood, or certainly with lots of ventilation. The amount produced is not much but it is dangerous, nevertheless. Plastic tongs or tweezers should be used to handle the crystal and wash it thoroughly in running water before handling it. Remember the cleaner the crystal, the better it will oscillate.

Something that should be considered when etching crystals is the fact that any etchant attacks the sharp edges of a crystal first. Round edges make the crystal less active. However, as Bob notes, the etching also cleans up the crystal of any left-over grinding compound or quartz dust imbedded in the surface of the crystal. In my experience, etching is good for moving a crystal up maybe 10 kHz after getting close with grinding. When doing your grinding, it is important to maintain parallel crystal faces and sharp edges. If this is done, etching to the final frequency should not harm the crystal activity.

Conard Murray added:

> It is a Clover compound but is in a grease base so you gotta clean
> the blank pretty well after each session, but if you follow the
> proper cleaning procedure then it is no added work using the
> grease base.

I have always used water-thinned grinding compounds but I see no reason oil-based compounds should not work too. But the cleaning issue is very important. Any trace of oil on the crystal (even skin oil from handling it) will reduce the crystal activity. It is probably worth using a caustic cleaner to remove any oil. A short soak in sodium hydroxide solution should work well. [Theoretically concentrated sodium hydroxide solution can etch quartz. I have found that it attacks glass slowly but that the rate of etching quartz is so slow as to not be noticed.] Remember to rinse well and dry thoroughly before putting the crystal back in its holder. Handle the crystal only by its edges.

I am quite pleased to see the activity on this (Glowbugs) group. Crystal grinding/etching is a fine old tradition. Buy some hamfest "junk" crystals and start experimenting. You can learn plenty from at most a few dollars worth of mistakes, and when you become successful you have joined the ranks of an elite bunch of old-timers. And more importantly, think of the fun of bragging that not only did you homebrew the rig, you also ground the crystal to frequency! But be safe, however. If anyone needs a full MSDS on ammonium bifluoride, email me at the address below.

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

Date: Thu, 14 Nov 1996 18:04:46 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: glowbugs@theporch.com
Subject: Re: Article on grinding crystals
Message-ID: <199611150202.VAA15159@user2.mnsinc.com>

Would blanks for FT-241 be physically different in sixe from those made for FT-243s or is it just the holders that are different?
Bry
****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com   *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/   *
****

Date: Thu, 14 Nov 1996 18:08:54 +0000
From: Richard Wilkerson <richqrp@pacbell.net>
To: glowbugs@theporch.com
Subject: voltage
Message-ID: <328B6036.B2C@pacbell.net>

.Hello gang...I need to know the voltage range of the 0B2 voltage regulator tube? minimum and maximum..thanks rich
--
******
Rich Wilkerson, WD6FDD, Santee,Ca.
NorCal, ARCI, ARS, QRP-L & E.C.R.A.

Date: Fri, 15 Nov 1996 00:26:28 -0600

From: Conard Murray <conard@tntech.campus.mci.net>
To: glowbugs@theporch.com
Subject: 6085 & 6CA4/EZ81 tubes for trade
Message-ID: <1.5.4.32.19961115062628.0068fae0@tntech.campus.mci.net>

Hello all,
I have a few NIB Amperex 6CA4/EZ81's and Amperex premium quality 6085/E80CC bottles for trade. I would like to trade them for Svetlana SV811-10's or possibly plain old 811A's or maybe some other power tube.
Thanks,
de Conard, ws4s

Conard Murray WS4S NNN0UTN Glowbugs Listowner
217 Dyer Avenue BA/GB net 1802.5/3579.5/7050 KHz
Cookeville, Tn 38501 conard@tntech.campus.mci.net
615-526-4093 Wise men still seek Him

- LICENSED ONLY TO EXTENT INDICATED ON CARTON -

Date: Fri, 15 Nov 96 08:32:27 EST
From: jkh@lexis-nexis.com (John Heck)
To: glowbugs@theporch.com
Subject: FS: Tube Manuals
Message-ID: <9611151332.AA06425@beans.lexis-nexis.com>

Folks,
I have a couple of spare tube manuals to offer. To wit:

RCA RC-19 Receiving Tube Manual, 1959, well used but good condition, $12.50 postpaid.

RCA RC-20 Receiving Tube Manual, 1960, well used but good condition, $12.50 postpaid

Howard Sams Tube Substitution Handbooks:
    #15 - 1972 $5.50   postpaid
    #17 - 1974 $5.50   postpaid
    #19 - 1975 $5.50   postpaid

Please reply via private email. Thank you.

Regards,
John Heck, KC8ETS
1009 Donson Drive
Dayton, Ohio 45429

(513)865-7036(work)
jkh@lexis-nexis.com

Date: Fri, 15 Nov 1996 09:25:23 -0500 (EST)
From: lkayser@rideau.net (Larry Kayser)
To: "Barry L. Ornitz" <u856010@eastman.com>,
Subject: Crystal Etching and Ammonium Bifluoride, one more point
Message-ID: <199611151425.JAA03132@mail.peterboro.net>

Greetings:

I have a small point to add on the issue of using hydrofluoric acid in the etching of quartz crystals blanks. The first point is to that extensive etching to move a long way as Barry suggest is inappropriate. He adds that the acid attacks the edges with vigour, intuitively I can agree but I had never recognized this fact, there is however another problem. The acid does not seem to uniformly etch the surface of the crystal.

My experience is that the remaining blank, after etching, may have up to a 1/1000 of an inch bias in thickness with just moving in the order of 5 khz or so. I have one sense of the cause of this problem might be the need to agitate the crystal in the etchant. My work has not solved this problem...

Larry
va3lk / wa3zia

Date: Fri, 15 Nov 1996 10:42:06 -0600
From: Conard Murray <conard@TNTECH.CAMPUS.MCI.NET>
To: Robert Keys <rdkeys@csemail.cropsci.ncsu.edu>
Subject: [Fwd: 1.803 MHz Crystal Quotation]
Message-ID: <328C9D5E.11AF@tntech.campus.mci.net>

This is a multi-part message in MIME format.

--------------1B832C5B3544
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Sales wrote:
>
> Dear Mr. Murray:
>

> Thank you for your inquiry regarding a 1.803 MHz AT cut, Fundamental
> crystal. We are quoting in accordance with your requirements, however,
> since you did not specify a stability, we will be quoting +/-.01% (or 100
> ppm) over an operating temperature range of 0 deg. to 75 deg. C. Pricing
> and delivery would be as follows:
>
>   1-4 pieces --- $62.70 each
>   5-9 pieces --- $38.00 each
>   10-24 pieces -- $27.50 each
>   25 pieces --- $21.75 each
>
> Delivery 7 weeks ARO. The FOB Point is Erie, PA, and terms Net 30 days
> pending credit approval. Our quotation is valid for 60 days. Minimum
> billing is $150.00 per order.
>
> We are in receipt of the other e-mail messages you had sent us today. We
> will be responding to these as soon as possible. If you have any
> questions, please feel free to contact us at any time.
>
> Regards,
>
> Paul T. Wisniewski, Sales Account Mgr.
> Bliley Electric Company/Erie, PA

Well, folks, I guess this is not the way to go.
73 de Conard, ws4s

--------------1B832C5B3544
Content-Type: message/rfc822
Content-Transfer-Encoding: 7bit
Content-Disposition: inline

Received: from moose.erie.net (root@moose.erie.net [199.234.142.2]) by
tntech-01.campus.mci.net (8.7.5/8.7.3) with SMTP id KAA08741 for
<conard@tntech.campus.mci.net>; Fri, 15 Nov 1996 10:29:37 -0600 (CST)
Received: from Sales (bbs43.erie.net [199.234.142.143]) by moose.erie.net
(8.6.12/8.6.9) with SMTP id LAA11497 for <conard@tntech.campus.mci.net>; Fri, 15
Nov 1996 11:31:47 -0500
Message-ID: <328D6D83.37EE@erie.net>
Date: Fri, 15 Nov 1996 23:30:11 -0800
From: Sales <"bliley "@erie.net>
Organization: Bliley Electric Co.
X-Mailer: Mozilla 2.0 (Win95; U; 16bit)
MIME-Version: 1.0
To: conard@tntech.campus.mci.net
Subject: 1.803 MHz Crystal Quotation
Content-Transfer-Encoding: 7bit
Content-Type: text/plain; charset=us-ascii

Dear Mr. Murray:

Thank you for your inquiry regarding a 1.803 MHz AT cut, Fundamental crystal. We are quoting in accordance with your requirements, however, since you did not specify a stability, we will be quoting +/-.01% (or 100 ppm) over an operating temperature range of 0 deg. to 75 deg. C. Pricing and delivery would be as follows:

1-4 pieces --- $62.70 each
5-9 pieces --- $38.00 each
10-24 pieces -- $27.50 each
25 pieces --- $21.75 each

Delivery 7 weeks ARO. The FOB Point is Erie, PA, and terms Net 30 days pending credit approval. Our quotation is valid for 60 days. Minimum billing is $150.00 per order.

We are in receipt of the other e-mail messages you had sent us today. We will be responding to these as soon as possible. If you have any questions, please feel free to contact us at any time.

Regards,

Paul T. Wisniewski, Sales Account Mgr.
Bliley Electric Company/Erie, PA

--------------1B832C5B3544--

Date: Fri, 15 Nov 1996 06:58:39 -1000
From: Jeffrey Herman <jherman@hawaii.edu>
To: Conard Murray <conard@tntech.campus.mci.net>
Subject: Re: [Fwd: 1.803 MHz Crystal Quotation]
Message-ID: <Pine.GSO.3.93.961115065524.3254B-100000@uhunix3>

Ouch! $60 for an xtal? Maybe they're gold-plated...

I just posted the following to the BA list and it should certainly be of interest here, too:

> ANNOUNCEMENT:
> Sept. 11, 1996
> From: PHOENIX CRYSTALS

> 1714 North Ash St.
> Nevada, Mo. 64772
> Phoenix Crystals is commencing the manufacture of crystals targeted
> spacifically for the radio amateur market. We plan to have AT-cut
> hermetically sealed plated crystals available within the next 30 to
> 60 days for the various amateur bands. Startup plans are to provide
> 80, 40 and 30 meter crystals on a 10 to 14 day shipment after
> receipt of orders.
> Tentative pricing will be approximately $4.95 each in single
> quanity. Sealed plated crystals will provide much better quality and
> long-term performance than the older FT-243 style crystals, and we
> plan on making these available in several holder styles.
> John R. Morris
> Phoenix Crystals
> 1714 North Ash Street
> Nevada, Mo. 64772
> phone: 1-417-667-6179 (Note: daytime phone is answered by message
> recorder. Mr. Morris can usually be reached after 6:00 PM CST.)

So we've still got an xtal maker targeting the amateur community.

73,
Jeff KH2PZ / KH6

Date: Fri, 15 Nov 96 13:26:27 EST
From: jkh@lexis-nexis.com (John Heck)
To: glowbugs@theporch.com, lkayser@rideau.net
Subject: Re: Crystal Etching and Ammonium Bifluoride, one more point
Message-ID: <9611151826.AA06533@beans.lexis-nexis.com>

Folks,
I might also add my 2 cents to this discussion. Larry is quite right when he says that
the acid attacks the surface non-uniformly. In the case of any crystal, there are planes produced by the several lattices of the crystal, owing to the way each molecule
bonds with its neighbors. Depending on the structure of the molecule, some of these
bonds are more suceptible to attack by the acid. Because the bond types are all aligned
along planes, some planes are more easily etched. This is the cause of the "frosty"
appearance of etched surfaces. I would guess that, in the case of most crystalline materials, this surface irregularity is not much more that a few molecules thick,

and
should not make much difference in the way the crystal resonates. Other materials might
have greater/lesser resistance between the bonds in different planes and would produce
noticable resonance effects. These differences would also vary with etching agents.
The mere appearance of etching is not enough to decide if there is a problem. Surface
irregularities of only a few molecules can cause marked optical effects, as witness
the diffraction grating whose effect is caused by surface differences of only several
atoms thickness. Such small differences might not be enough to cause electrical prob-
lems with a crystal.
     That the acid attacks the edges more vigourously is a matter of geometry, but true, never the less. Do crystal blanks have to have sharp corners? Prolonged etching
will relieve the corners of the edges as if you had chamfered them with abrasive.

Regards,
John Heck, KC8ETS
1009 Donson Drive
Dayton, Ohio 45429
(513)865-7036(work)
jkh@lexis-nexis.com

> I have a small point to add on the issue of using hydrofluoric acid in the
> etching of quartz crystals blanks. The first point is to that extensive
> etching to move a long way as Barry suggest is inappropriate. He adds that
> the acid attacks the edges with vigour, intuitively I can agree but I had
> never recognized this fact, there is however another problem. The acid does
> not seem to uniformly etch the surface of the crystal.
>
> My experience is that the remaining blank, after etching, may have up to a
> 1/1000 of an inch bias in thickness with just moving in the order of 5 khz
> or so. I have one sense of the cause of this problem might be the need to
> agitate the crystal in the etchant. My work has not solved this problem...
>
>
> Larry
> va3lk / wa3zia
>
>

Date: Fri, 15 Nov 1996 15:40:34 -0500
From: "Robert Fowle (KC8DBC)" <hammarlund@jacksonmi.com>
To: boatanchors@theporch.com
Cc: glowbugs@theporch.com
Subject: Att: Military BA lover's..what do i have?
Message-ID: <2.2.16.19961115154422.1d2f570c@fvmail.com>

It is a black box SO-239 each end, marked: PL-259
Markings:
A 0236 (assume serial #)
F-15/U
CAQW 338-DAY-DE-RC

ORANGE INSPECTER TAG:
SC 405 A

anybody have any clue's? (i assume some kind of filter, but what?)
what piece does it go with?
thank you in advance..

Visit my Web Page.....
==========]-[->
Robert Fowle   KC8DBC
The HAMMARLUND Historian
Ph. 517-789-6721
1215 Winifred
Jackson, Mich. 49202-1946
E-mail: hammarlund@jacksonmi.com
Web Page: http://www.jacksonmi.com/hammarlund
                HAMMARLUND LITERATURE WANTED
WANTED: MANUALS FOR ANY MAKE RADIO EQUIPMENT
==========]-[->
see it first on my list...to be put on the 'mail list' (send me email)
or see it later in.....
Boatanchors news group: rec.radio.amateur.boatanchors

Date: Fri, 15 Nov 1996 16:04:52 -0500 (EST)
From: "Barry L. Ornitz" <u856010@eastman.com>
To: Boatanchors Mailing List <boatanchors@theporch.com>,
Cc: Larry Kayser <lkayser@rideau.net>
Subject: Additional comments on crystal etching and safety
Message-ID: <Pine.ULT.3.91.961115151908.8760A-100000@dua150.kpt.emn.com>

On Fri, 15 Nov 1996, Larry Kayser, va3lk / wa3zia, brings up some

important points for those considering crystal etching:

> I have a small point to add on the issue of using hydrofluoric acid in the
> etching of quartz crystals blanks. The first point is to that extensive
> etching to move a long way as Barry suggest is inappropriate. He adds that
> the acid attacks the edges with vigour, intuitively I can agree but I had
> never recognized this fact, there is however another problem. The acid does
> not seem to uniformly etch the surface of the crystal.

> My experience is that the remaining blank, after etching, may have up to a
> 1/1000 of an inch bias in thickness with just moving in the order of 5 khz
> or so. I have one sense of the cause of this problem might be the need to
> agitate the crystal in the etchant. My work has not solved this problem...

The etching solution attacks the crystal at both (or all three) sides when you have sharp edges. The result is that the edges dissolve faster and eventually the crystal will wind up with rounded edges. This is the primary effect that causes problems. However, there is a secondary effect that partially explains the nonuniformity Larry describes. I don't pretend to understand all of the thermodynamics involved but the surface energies of a crystal are less as the crystal gets smaller. The result is that while the entire crystal surface goes into solution, thinner sections do so faster. This would lead to a "bulging" of the crystal in the middle of each face.

However, I think Larry is describing something more than this. His suggestion for agitation is excellent. Mass transfer effects will cause local concentration gradients and hence different rates of the quartz dissolving. One thing that will help is to use a slightly stronger concentration of hydrofluoric acid (remember, DANGEROUS). Agitation will help too. I guess I have usually been lucky due to my impatience. I frequently remove the crystal to test it and place it back in the etchant a number of times which tends to randomize the orientation of the crystal. So sometimes my ignorance CAN be helpful after all!

By the way, do not lay the crystal flat on the bottom of your plastic etching container. Prop it up vertically if possible.

I am glad Larry brought this up and it should serve to reinforce the idea that etching may be OK for very _small_ swings up in frequency and as a crystal cleaning method, but good old-fashioned grinding is what most of us should stick with - and it is safer. Thanks, Larry.

I would also like to thank Jim, W8ZR, for his safety warnings.

> I don't want to sound like your mom, but I'd recommend nobody except
> professionals mess with hydrofluoric acid. It's some of the nastiest stuff
> in the world.

<gruesome story deleted, I cannot vouch for its authenticity, but it makes scientific sense>

Who cares if you sound like our mom, Jim? Mom was usually right and she was always thinking about our safety. I owe a lot to some of my Elmers of years ago in regard to electrical safety - things like keeping one hand in your pocket, never working on live equipment when tired or sleepy. I know these things are printed in every handbook and everyone can read them. However it means a lot more when they are demonstrated by someone older and wiser. Well, 32 years later, I guess I now fall into the same category I once thought of my Elmers. I think most of the Boatanchor folks fall into this category too - we get to be the Elmers of the next generation. This means we should try to demonstrate the best and safest ways of doing things. Good operating skills and politeness while "on the air" are also something we can pass on.

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

Date: Fri, 15 Nov 1996 16:21:58 -0500
From: lee@radioadv.com (Lee Richey)
To: <glowbugs@theporch.com>
Subject: 6BM8 .jpg file
Message-ID: <19961115212502199.AAA225@lee.radioadv.com>

Hello gang,

I finally got around to posting a .jpg file of the 6BM8 rig I've been working on. It will be found at http://cosmosbbs.com/rac.jpg

It is about 225k or so, so it will take a few minutes to down load.

The rig is built on a 5 x 7 pc board which mounts on the open side (bottom) of a 5 x 7 chassis.

The switches across the front of the pc board left to right are:

- Power
- Spot (momentary)
- Xtal select
- Band (80/40)

The four trimmers are plate tune and load for 80 and 40 meters.
The key jack is behind the 6BM8 and the rf jack is visible to the right

of the key jack. Notice the small pilot lamp to the left and near the base of the power transformer. It is used as a "plate meter". I use a 2 volt/60ma lamp. Works very nicely. I expect to mount it from the underside of the pc board somewhere between the spot switch and the transformer. The power line cord exits behind the power transformer through the pc board. The end result is that, except for mounting holes, no holes are needed in the chassis.

There are no high voltage AC/DC/RF points exposed.

I am going to post a picture of the rig at K3RAC (club station) soon. It will show the 6BM8 rig next to the SX-122 and T/R keyer I use. The file will be same site with file name of k3rac.jpg.

-Lee-   -WA3FIY-

http://www.radioadv.com

End of GLOWBUGS Digest 353
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